

AMENDMENT AND PRESENTATION OF CLAIMS

Please replace all prior claims in the present application with the following claims, in which claims 1, 7, 10, 11, 16, 19, 20, 22, 24, 26 and 27 currently amended, and claims 28-35 are newly presented.

1. (Currently Amended) A method for providing multi-user access to a packet switched network, the method comprising:

executing a communication software on a plurality of end user stations that communicate over a local area network (LAN) supporting an Ethernet-based LAN protocol, the communication software being based upon a communication protocol that establishes a point-to-point communication session;

generating packets by the plurality of end user stations based upon the communication protocol;

selectively encapsulating the communication protocol packets using the Ethernet-based LAN protocol; and

forwarding the encapsulated packets to a customer premise equipment (CPE) that is coupled to the LAN,

wherein the point-to-point communication sessions are simultaneously carried over a communication channel and terminated at a remote access server, the point-to-point communication sessions corresponding respectively to a plurality of service providers, the packets being recovered and forwarded to the packet switched network, and wherein individual accounting information is processed for each of the plurality of end user stations based upon a selected one of the service providers.

2. (Original) The method according to claim 1, wherein the communication protocol in the executing step is Point-to-Point Protocol (PPP).

3. (Previously Presented) The method according to claim 1, wherein the CPE in the step of forwarding is a digital subscriber line (DSL) modem.

4. (Previously Presented) The method according to claim 1, wherein the communication channel is established over an Asynchronous Transfer Mode (ATM) network.

5. (Previously Presented) The method according to claim 4, wherein a Permanent Virtual Circuit (PVC) associated with the ATM network is assigned to the CPE.

6. (Previously Presented) The method according to claim 5, wherein the point-to-point communication sessions are mapped to distinct VPI/VCIs (Virtual Path Identifier/Virtual Connection Identifier).

7. (Currently Amended) The method according to claim 1, ~~further comprising dynamically selecting network services~~ wherein the selection of the one service provider by each end user station is dynamic.

8. (Original) The method according to claim 1, wherein the packets conform with Ethernet V2 format.

9. (Canceled)

10. (Currently Amended) A communication system for providing multi-user access to a packet switched network, the communication system comprising:

~~a local area network (LAN) supporting an Ethernet based LAN protocol;~~

~~a plurality of end user stations connected to the LAN, each of the plurality of end user stations executing a communication software that is based upon a communication protocol that establishes a point to point communication session, the plurality of end user stations generating packets based upon the communication protocol, each of the plurality of end user stations selectively encapsulating the communication protocol packets using the Ethernet based LAN protocol;~~

~~a customer premise equipment (CPE) coupled to the LAN and configured to transmit the encapsulated packets, the LAN providing connectivity to a plurality of end user stations, each of the end user stations executing a communication software that is based upon a communication protocol that establishes a point to point communication session, the plurality of end user stations generating packets based upon the communication protocol, each of the plurality of end user stations selectively encapsulating the communication protocol packets using the Ethernet based LAN protocol;~~

a line terminating equipment communicating with ~~the CPE~~ a customer premise equipment (CPE) coupled to a local area network (LAN) providing connectivity to a plurality of end user stations, each of the end user stations executing a communication software that is based upon a communication protocol that establishes a point-to-point communication session, the plurality of end user stations generating encapsulated packets based upon the communication protocol, the point-to-point communication sessions corresponding respectively to a plurality of service providers;

a multiplexer/demultiplexer coupled to the line terminating equipment and configured to receive the point-to-point communication sessions, the multiplexer/demultiplexer simultaneously carrying the point-to-point communication sessions over a communication channel; and

a remote access server communicating with the multiplexer/demultiplexer and configured to terminate the point-to-point communication sessions, the remote access server recovering the packets and forwarding the packets to the packet switched network,

wherein the remote access server processes individual accounting information for each of the plurality of end user stations based upon a selected one of the service providers.

11. (Currently Amended) The system according to claim 10, wherein the communication protocol is Point-to-Point Protocol over Ethernet.

12. (Original) The system according to claim 10, wherein the CPE is a digital subscriber line (DSL) modem and the line terminating equipment is a DSL access multiplexer (DSLAM).

13. (Previously Presented) The system according to claim 12, wherein the multiplexer/demultiplexer is an Asynchronous Transfer Mode (ATM) switch.

14. (Original) The system according to claim 13, wherein the communication channel is a Permanent Virtual Circuit (PVC), the PVC being associated with the CPE.

15. (Original) The system according to claim 14, wherein the point-to-point communication sessions are individually mapped to distinct VPI/VCIs (Virtual Path Identifier/Virtual Connection Identifier).

16. (Currently Amended) The system according to claim 10, wherein each of the plurality of end user stations dynamically selects ~~network services~~ one of the service providers.

17. (Original) The system according to claim 10, wherein the packets conform with Ethernet V2 format.

18. (Canceled)

19. (Currently Amended) A computer-readable medium carrying one or more sequences of one or more instructions for providing multi-user access to a packet switched network, the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, cause the one or more processors to perform the steps of:

executing a communication software on a plurality of end user stations that communicate over a local area network (LAN) supporting an Ethernet-based LAN protocol, the communication software being based upon a communication protocol that establishes a point-to-point communication session corresponding to one of a plurality of service providers;

generating packets by the plurality of end user stations based upon the communication protocol;

selectively encapsulating the communication protocol packets using the Ethernet-based LAN protocol; and

forwarding the encapsulated packets to a customer premise equipment (CPE) that is coupled to the LAN, wherein individual accounting information is processed for each of the plurality of end user stations based upon a selected one of the service providers.

20. (Currently Amended) The computer-readable medium according to claim 19, wherein the communication protocol in the executing step is Point-to-Point Protocol (PPP).

21. (Original) The computer-readable medium according to claim 19, wherein the CPE in the step of transmitting is a digital subscriber line (DSL) modem.

22. (Currently Amended) The computer-readable medium according to claim 19, ~~further comprising dynamically selecting network services~~ wherein the selection of the one service provider by each end user station is dynamic.

23. (Original) The computer-readable medium according to claim 19, wherein the packets conform with Ethernet V2 format.

24. (Currently Amended) A method for supporting multi-user access to a data network, the method comprising:

receiving packets supporting a plurality of point-to-point communication sessions initiated respectively by a plurality of hosts, the packets being encapsulated by an Ethernet-type protocol, wherein the point-to-point communication sessions corresponding respectively to a plurality of service providers; and

transmitting the encapsulated packets over a common communication channel to a line terminating device,

wherein the line terminating device resolves the plurality of point-to-point communication sessions according to the respective hosts for accessing the data network, and

wherein individual accounting information is processed for each of the plurality of hosts based upon a selected one of the service providers.

25. (Previously Presented) The method according to claim 24, wherein one of the point-to-point communication sessions corresponds to a first network service provider, and another one of the point-to-point communication sessions corresponds to a second network service provider.

26. (Currently Amended) A method for supporting multi-user access to network services, the method comprising:

receiving encapsulated packets from a single customer premise equipment that communicates with a plurality of hosts, each of the hosts being configured to establish point-to-point communication session for transport of the packets and to encapsulate the packets according to an Ethernet-type protocol; and

communicating with an access server via a plurality of communication channels corresponding to the point-to-point communication sessions in response to the received encapsulated packets, the point-to-point communication sessions corresponding respectively to a plurality of service providers, wherein individual accounting information is processed for each of the plurality of hosts based upon a selected one of the service providers.

27. (Currently Amended) The method according to claim 26, wherein ~~one of the point-to-point communication sessions corresponds to a first network service provider, and another one of the point-to-point communication sessions corresponds to a second network~~ the selection of the one service provider by each of the hosts is dynamic.

28. (New) A method for providing data services from a plurality of service providers, the method comprising:

establishing a point-to-point communication session corresponding to one of the service providers; and

selectively establishing another point-to-point communication session corresponding to another one of the service providers,

wherein the point-to-point communication sessions are established over a common Point-to-Point Protocol over Ethernet (PPPoE) connection.

29. (New) The method according to claim 28, further comprising:

generating billing information for the point-to-point communication sessions according to rates of the respective service providers.

30. (New) The method according to claim 28, wherein the PPPoE connection is over a digital subscriber line (DSL).

31. (New) A system for providing data services from a plurality of service providers, the system comprising:

a line terminating equipment configured to establish a plurality of point-to-point communication sessions corresponding respectively to the service providers, wherein the point-to-point communication sessions are established over a common Point-to-Point Protocol over Ethernet (PPPoE) connection,

wherein a user dynamically selects one of the service providers and communicates over the corresponding point-to-point communication session, each of the point-to-point communication sessions generating separate accounting information.

32. (New) The system according to claim 31, wherein the PPPoE connection is over a digital subscriber line (DSL).

33. (New) A method for providing data services from a plurality of service providers, the method comprising:

displaying a plurality of options for data services corresponding to the service providers;

receiving a selection input for one of the service providers;

initiating establishment of a point-to-point communication session corresponding to a selected one of the service providers;

receiving another selection input for another one of the service providers; and

initiating another point-to-point communication session corresponding to another selected one of the service providers,

wherein the point-to-point communication sessions are established over a common Point-to-Point Protocol over Ethernet (PPPoE) connection.

34. (New) The method according to claim 33, wherein the established point-to-point communication sessions are billed according to rates of the respective service providers.

35. (New) The method according to claim 33, wherein the PPPoE connection is over a digital subscriber line (DSL).